

# University of West Alabama Herbarium

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Standard Operating Procedures and Protocols for  
Aquatic Plant Taxonomic Identification

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## **Table of Contents**

1.0 Traceability of Analysis .....	1
2.0 Procedure .....	1
3.0 QAQC Protocols .....	2

## **1.0 Traceability of Analysis**

### *Staff Experience:*

Identifications at the University of West Alabama Herbarium are conducted solely by the curator, Dr. Brian Keener who has been in that position since 2003. He has been working in the field of plant taxonomy for over 20 years.

### *Library:*

The UWA Herbarium contains an extensive library of botanical works. The volumes of taxonomic keys and references are vast and too numerous to list here. The UWA Library also provides access to databases of substantial holdings of botanical systematic/taxonomic journals.

## **2.0 Procedure**

### *Specimen Arrival and Curation:*

Upon arrival, all specimens will be frozen for a minimum of 72 hours (three days) at -20°C. This will be done to ensure the current collections at UWA will not be contaminated with unwanted pests that may or may not be present in the shipment. Upon removal from the freeze treatment, all specimens will be counted and recounted to make sure the specimen number matches the invoice. At this point, NEON/Battelle Memorial Institute will be notified the specimens arrived safely. The specimens will be handled carefully and stored in a standard herbarium cabinet in the UWA Herbarium for the remainder of the time they will be on loan. During times of study and identification, the specimens will be moved no more than a few feet from the cabinet to the microscope for examination. All specimens will remain together, perhaps from time to time the specimens will be in separate stacks on the same table or counter, but together.

*Taxonomic Identification:*

Identifications will be carried out at the primary workstation of the UWA Herbarium (Fig. 1). This workstation is equipped with Leica M125 Stereoscope mounted on a large boom stand.

Identifications will be conducted as follows:

- 1.) Initial recognition of the Family, Genus, or Species based on prior experiences.
- 2.) If recognition does not complete the identification to species, taxonomic keys in various floras, manuals, or guides will be consulted. The UWA Herbarium is adequately supported by a botanical library with historical and up to date botanical works. In some cases, recently published taxonomic revisions on monographs will be utilized.
- 3.) Once an initial identification is made by recognition or through taxonomic keys, confirmation attempts will be made using multiple different floras, manuals, guides, taxonomic revisions, or monographs. Previously identified specimens in the UWA Herbarium collection (Fig. 2) will also be examined for verification.
- 4.) Final determinations will be recorded into the Spreadsheet provided by NEON.

### **3.0 QAQC Protocols**

The UWA Herbarium, does not have any QAQC protocols. Specimens are identified to which ever taxonomic level is possible given the material available. It is common for sterile/nonreproductive specimens to not be determined to species level.



**Figure 1:** Workstation at UWA Herbarium with Leica M125 Stereoscope mounted on boom stand.



**Figure 2:** One aisle of cabinets in UWA Herbarium